IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF OKLAHOMA

Joey Wright, as next of kin for K.B., a minor, Plaintiff, v. United States of America, Defendant.	Case No. 12-CIV-320-RAW

FINDINGS OF FACT AND
CONCLUSIONS OF LAW

K.B. was born at Choctaw Nation Health Center ("CNHC") on December 28, 2008. She had hydrocephalous. Plaintiff claims CNHC negligently failed to diagnose K.B.'s hydrocephalous, thus depriving her of the opportunity for additional testing and treatment. This failure, Plaintiff claims, led to neurological and physical injuries to K.B. for which she should be awarded damages.

CNHC claims otherwise. The signs and symptoms K.B. presented during her care and treatment, CNHC asserts, were insufficient for its employees to diagnose K.B.'s hydrocephalous. Furthermore, CNHC denies any questionable diagnosis by it caused any of K.B.'s damages, and denies that these damages are significant. These are the basic issues for this court to determine.

To that end, this case was heard by bench trial on July 16-17, 2013. At trial, the court received numerous exhibits (including a banker's box of medical records) and the reports of various expert witnesses. In addition, the following witnesses presented live testimony: Dr. Robin Smith, Joey Wright Caughern, Dr. Marie Cole and Dr. Mark Hilley. The parties also presented the deposition testimony of Dr. Charles Woodridge, JoAnn Rosenberger, CPNP, Teresa Vaden, LPN, Dr. Shane Ashford, Ross Green, Nellie Wright, Edmand Provder, Thomas Roney, and Dr. Joe G.

Gonzales.

The court has carefully reviewed all the extensive exhibits, the transcript of the trial testimony, the deposition testimony, the experts' reports, and stipulations of the parties. Having considered this record as a whole, the court enters its findings of fact and conclusions of law pursuant to Rule 52(a)(1) of the Federal Rules of Civil Procedure. To the extent a finding of fact constitutes a conclusion of law, the court adopts it as such. To the extent a conclusion of law constitutes a finding of fact, the court adopts it as such.

The parties have stipulated to 72 findings of fact.[1] Additionally, Plaintiff has proposed 101 findings of fact, and Defendant has proposed 152. The Tenth Circuit has stated that Rule 52 does not require the district court to set out its findings and conclusions in "excruciating detail." OCI Wyo., L.P. v. Pacific Corp., 479 F.3d 1199, 1204 (10th Cir. 2007). This phrase precisely describes what the result would be here if the court traced the path the parties took in their meticulous delineation and explanation of the testimony and exhibits (especially the medical records and medical procedures) at trial.

The court would not ordinarily adopt verbatim the findings of fact of either party. In this case, however, because many of the parties' proposed factual findings are objective medical test results and mostly supported by evidence in the medical records, the court may adopt verbatim findings from both sides. Because the task of the court in this particular case is mostly to draw inferences from those objectively supported facts, this procedure seems practical and acceptable. In some instances, however, the court will articulate some of its inferences and questions regarding the objective facts in the adopted findings themselves. These comments will be noted in brackets

[1] The court commends counsel for their praiseworthy cooperation.

or simply by underlining of significant facts. Also, the court has included its analysis of the most important witnesses and evidence.

This is a very close case.

Findings of Fact Regarding Liability

1. K.B. was born at the Choctaw Nation Health Center ("CNHC") on December 28, 2008 and received regular care and treatment there up to August 9, 2010, which was her last visit to CNHC. (Joint Stipulation, Docket No. 56, ¶2.)

2. K.B. was born with hydrocephalus which was not a result of any negligence on the part of the Choctaw Nation Healthcare Center. (Joint Stipulation, Docket No. 56, ¶3.)

3. K.B. received treatment from Shane Ashford, DO at the Family Medical Center on October 1, 2010, January 4, 2011, January 18, 2011, January 20, 2011, and January 25, 2011. (Joint Stipulation, Docket No. 56, ¶4.)

4. K.B. received treatment from Shriners Hospital on October 26, 2010. (Joint Stipulation, Docket No. 56, ¶5.)

5. K.B. received treatment from Melinda Scantling at the After Hours Clinic on February 23, 2010, August 19, 2010, and September 20, 2010. (Joint Stipulation, Docket No. 56, ¶6.)

6. K.B. received treatment from Eastern Oklahoma Medical Center on January 25, 2011, January 28, 2011, February 7, 2011, and February 11, 2011. (Joint Stipulation, Docket No. 56, ¶7.)

7. On February 11, 2011, K.B. was diagnosed by Dr. Ashford with hydrocephalus. (Joint Stipulation, Docket No. 56, ¶8.)

8. Between December 28, 2008 and up to and including August 9, 2010, K.B. was a patient at CNHC on each of the following dates: December 28, 2008, December 29, 2008, January 5, 2009, January 7, 2009, January 9, 2009 – January 17, 2009, January 29, 2009, January 30, 2009, February 3, 2009, February 10, 2009, February 12, 2009, February 13, 2009, February 17, 2009, February 27, 2009, March 6, 2009, April 28, 2009, June 1, 2009, June 2, 2009, June 3, 2009, June 4, 2009, June 30, 2009, October 19, 2009, October 30, 2009, February 9, 2010, March 8, 2010, April 19, 2010, and August 9, 2010. (Joint Stipulation, Docket No. 56, ¶9.)

9. Marie Cole, M.D.; JoAnn Rosenberger, CPNP; Hector Cabeza, M.D.; Barbara Howell, M.D.; Julie Tate, M.D.; Scott Grigory, M.D.; Raqual Vargas-Whale, M.D.; and Charles Woodridge, M.D. were employees of Choctaw Nation Health Services and were acting in the course and scope of their employment when they cared for K.B. at CNHC. (Joint Stipulation, Docket No. 56, ¶10.)

10. Thus, over a twenty month period after her birth, K.B. was seen 27 times at CNHC and treated there by 8 different medical care professionals. After ceasing treatment at CNHC, K.B. was seen by two additional health care providers before her hydrocephalus was diagnosed.

11. Approximately 12.5 hours after she was born, CNHC pediatrician Dr. Barbara Howell examined K.B. and noted that her head circumference was 32.5 cm, which put it at about the 25th percentile. Her weight was 3.18 kg at about the 50th percentile, and her length was 50 cm between the 50th and 75th percentiles. K.B.'s head was noted to have a prominent occiput. (Joint Exhibit 1, pp. 159, 161 and 173.) (Joint Stipulation, Docket No. 56, ¶22.) A prominent occiput may cause an inaccurate head circumference measurement. [One of Defendant's contentions is that K.B.'s head growth was not as great as the objective findings suggest because the measurements were likely

inaccurate. Yet even considering some degree of inaccuracy, Defendant does not seem to contend that K.B.'s head circumference did not cross two standard percentile lines within two years. If Defendant does so contend, the evidence supporting that view is sufficiently confusing to be unpersuasive.]

12. At one week of age, on January 5, 2009, K.B. had a Well Child Check with CNHC pediatrician Dr. Raquel Vargas-Whale. Her weight was noted to be 3.09 kg. Head circumference was 34.29 cm. Her length was 49.53 cm. "History/Parent concerns included frequent spitting up, with each feed." K.B.'s fontanels and neuromotor skills were assessed as normal. Dr. Vargas-Whale noted K.B. had a normal newborn sleep pattern. Dr. Vargas-Whale provided an assessment of healthy, however, weight was not back to birth weight with frequent spitting up. Dr. Vargas-Whale recommended a weight check in 1 week and burping in between each 1 ounce feed. (Joint Exhibit 1, p. 273.) (Joint Stipulation, Docket No. 56, ¶23.) (Plaintiff's Exhibit No. 1, p. 008.)

13. On January 7, 2009, K.B. presented to the CNHC with a chief complaint, not of vomiting, but of congestion. Her weight was noted to be 3.12 kg and her head circumference was 33.53 cm. [No length measurement.] She was changed to a lower lactose formula. She was seen by Marie C. Cole, M.D. Dr. Cole noted K.B. had gained 1 ounce since last visit and provided assessments of nasal congestion and immunization delay. Dr. Cole recommended nasal saline drops, Hepatitis B vaccine on this date, and a follow up visit in 1 month or sooner if symptoms increased. (Joint Stipulation, Docket No. 56, ¶24.) (Plaintiff's Exhibit No. 1, p. 008.) (Joint Exhibit 1, p. 270.)

15. On January 9, 2009, x-rays of the chest, performed at CNHC revealed no abnormalities. (Plaintiff's Exhibit No. 1, p. 008.)

16. At one month of age, K.B. had a visit with CNHC pediatrician Dr. Marie Cole on

January 29, 2009. Her weight was noted to be 3.66 kg and her head circumference was noted to be 36.20 cm. K.B.'s mother reported that she cried as if she was in pain whenever she was touched. K.B. was not irritable during the exam. Dr. Cole diagnosed K.B. with meningitis and provided assessments of colic-infant and positive for increased leukocytes. Dr. Cole recommended repeating laboratory work up and follow up visit in 1 week. (Joint Exhibit 1, p. 265.) (Joint Stipulation, Docket No. 56, ¶25.) (Plaintiff's Exhibit No. 1, p. 008-009.)

17. On January 30, 2009, K.B. had a visit with CNHC pediatrician Dr. Hector Cabeza for elevated white blood count. K.B.'s Mother reported that she had been cranky since birth and had watery stool. The records note that her "spitting up" had improved with similac sensitive formula. Her head circumference was noted to be 35.56 cm, smaller than the last measurement, and her weight was recorded as 3.69 kg. [No length measurement.] Dr. Cabeza provided assessments of fussy infant and milk protein allergy and recommended changing formula to Alimentum and following up as needed. (Plaintiff's Exhibit No. 1, p. 009.) (Joint Exhibit 1, p. 262.) (Joint Stipulation, Docket No. 56, ¶26.)

18. On February 3, 2009, four days later, K.B. presented to the CNHC with her grandmother for follow-up on colic. Her weight was 3.80 kg and head circumference was 35.56 cm. [Thus her weight was higher than the last visit and her head circumference was the same.] [No length measurement noted.] According to grandmother, K.B. was "doing great." She was still spitting up milk and occasionally cranky. She was seen by Dr. Cabeza who provided an assessment of milk protein allergy and recommended continuation of Alimentum and a follow up visit in 2 months. (Plaintiff's Exhibit No. 1, p. 009.) (Joint Exhibit 1, p. 259.) (Joint Stipulation, Docket No. 56, ¶27.)

19. On February 10, 2009 (only one week since the last visit), K.B. presented to the CNHC for nasal congestion since the prior day. K.B.'s feeding intolerance was reportedly much improved on Alimentum. Her weight was measured as 3.94 kg and head circumference was measured at 36.07 cm. [No length measurement noted.] K.B. was seen by Dr. Vargas-Whale who noted nasal congestion with increased nasal secretions and adequate weight gain. Dr. Vargas-Whale provided assessments of nasal congestion and recommended continuation of nasal suction and following up as needed. (Joint Exhibit 1, p. 257.) (Joint Stipulation, Docket No. 56, ¶28.) (Plaintiff's Exhibit No. 1, p. 009.)

20. On February 12, 2009, K.B. presented to the CNHC and was seen by Joann C. Rosenberger, CPNP, with a complaint of cough and congestion. According to the records, she had no fever, was still taking formula but down to 2 ounces per feeding, had 8-9 wet diapers a day and experienced no vomiting. She was diagnosed with bronchiolitis and prescribed albuterol. Ms. Rosenberger provided an assessment of bronchiolitis and prescribed Albuterol 1.25 mg/3 ml via Nebulizer. Ms. Rosenberger recommended a follow up visit in 1 day. (Plaintiff's Exhibit No. 1, p. 009.) (Joint Exhibit 1, p. 254.) (Joint Stipulation, Docket No. 56, ¶29.) [No head, weight or length measurement noted.]

21. On February 13, 2009, K.B. presented to the CNHC for a follow-up for bronchiolitis. According to the records, her grandmother reported she was a little better today, coughing less and less congested, no fever, taking less formula (2 ounces every 3 hours), less wet diapers (4 wet diapers since 2:00 am), and no vomiting. Her weight was 4.03 kg and head circumference was measured at 37.59 cm. [No length measurement noted.] K.B. was seen by Ms. Rosenberger on this visit who noted a screen for respiratory syncytial virus (RSV) was negative and recommended continuation

of Albuterol treatments. (Joint Exhibit 1, p. 251.) (Plaintiff's Exhibit No. 1, p. 009.) (Joint Stipulation, Docket No. 56, ¶30.)

22. On February 17, 2009, K.B. presented to the CNHC for follow-up for bronchiolitis with Ms. Rosenberger. She was doing better, was still slightly congested after naps in the morning, was taking formula well, produced lots of wet diapers, was more active and alert and had no fever. Her weight was 4.09 kg and head circumference was measured at 37.59 cm. Her height (length) was 53.09 cm. Ms. Rosenberger noted slight congestion and provided an assessment of improved bronchiolitis. Ms. Rosenberger recommended decreasing Albuterol treatments and a follow up visit in 2 months. (Joint Exhibit 1, p. 246.) (Joint Stipulation, Docket No. 56, ¶31.) (Plaintiff's Exhibit No. 1, p. 009.)

23. On February 27, 2009 K.B. had a Well Child Check with Dr. Cabeza at CNHC. Her height was noted as 22.2 inches or 56.38 cm (50 percentile). Her weight was 10.0625 lbs. or 4.56 kg (30 percentile). Her head circumference was noted to be 15.4 inches or 39.11 cm. [No length measurement noted.] The records indicate that her mother reported she was doing well without crankiness since the next day after she started Alimentum. (Joint Exhibit 1, p. 241.) She was feeding well on Alimentum, taking 3 ½ ounces every 2-2 ½ hours. (Joint Exhibit 1, p. 241.) Her extremities/Clavicle/Hips, fontanels and neuromotor skills were noted to be "normal." Dr. Cabeza provided an assessment of healthy with no problems and recommended taking appropriate vaccinations, continuation of Alimentum, and a follow up visit in 4 months. (Joint Exhibit 1, pp. 241, 242 and 432.) (Plaintiff's Exhibit No. 1, p. 009.) (Joint Stipulation, Docket No. 56, ¶32.)

24. On March 6, 2009 K.B. saw Dr. Cabeza and the records note that she was spitting up 3-4 times after each feeding and that she was not gaining weight appropriately. Her weight and

head circumference were noted as 4.71 kg and 38.74 cm, respectively. [No length measurement noted.] Dr. Cabeza's assessment was GERD. His plan was milk thickening with cereal and follow-up the next week if no improvement and he will add antacid medication. (Joint Exhibit 1, p. 237.) (Joint Stipulation, Docket No. 56, ¶33.) (Plaintiff's Exhibit No. 1, p. 009.)

25. Approximately 9 weeks later on April 28, 2009 K.B. had her 4 month Well Child Check with Dr. Cabeza, who noted K.B. was gaining weight according with age, but still spitting up. Dr. Cabeza provided an assessment of GERD and recommended taking appropriate vaccinations, continuation of Alimentum with cereal, and a follow up in 6 months. Her extremities/clavicle/hips, fontanels and neuromotor skills were noted to be normal. Dr. Cabeza's assessment was healthy, no problems but has GERD and is gaining weight according with age. The records note that K.B.'s head circumference was 16.75 inches or 42.54 cm. and her weight was 12.062 lbs. or 5.47 kg (14 percentile). Her height was 24.6 (72 percentile). (Plaintiff's Exhibit No. 1, p. 009.) (Joint Exhibit 1, pp. 232-233 and 443.) (Joint Stipulation, Docket No. 56, ¶34.)

26. On June 1, 2009 when she was 5 months of age, K.B. presented to the CNHC complaining of fever and vomiting after each feeding which she had had "since birth." She was seen by Ms. Rosenberger. Her head circumference was noted as 43.18 cm and her weight was 13.56 lbs or 6.16 kg. [No length measurement noted.] Also, x-rays of the chest revealed no abnormalities. Ms. Rosenberger provided K.B. with a Rocephin 300 mg injection and noted she was not taking solid foods well. Ms. Rosenberger provided an assessment of fever and recommended laboratory workup, Pedialyte, monitoring fluid intake and number of wet diapers, Tylenol for fever, and a follow up visit in 1 day. (Joint Exhibit 1, p. 227.) (Plaintiff's Exhibit No. 1, pp. 009-010.) (Joint Stipulation, Docket No. 56, ¶35.)

27. On June 2, 2009 K.B. presented to the CNHC for follow-up for a 103 fever and was seen by Ms. Rosenberger. Her history of present illness included a notation that she is more alert and taking formula and Pedialyte, wetting diapers well, and still had "frequent vomiting throughout the day which has been occurring since birth." Her head circumference was noted to be 43.18 cm and her weight was 13.81 lbs or 6.27 kg. [No length measurement noted.] Ms. Rosenberger provided K.B. with a Rocephin 300 mg. injection. Ms. Rosenberger provided assessments of improving viral illness and vomiting and recommended ruling out reflux. (Joint Exhibit 1, p. 221.) (Joint Stipulation, Docket No. 56, ¶36.) (Plaintiff's Exhibit No. 1, p. 010.)

28. On June 3, 2009 K.B. presented to the CNHC for follow-up for fever and seen by Ms. Rosenberger. She reportedly acted better, was more active and playful, was taking formula and Pedialyte and some solid foods, and "vomiting that she has had since birth continues and she is scheduled for an UGI tomorrow." Her head circumference at this time was noted to be 43.18 cm and her weight was 13.88 lbs. or 6.30 kg. [No length measurement noted.] She was neurologically assessed as alert with no meningeal signs and an assessment of fever. Ms. Rosenberger provided K.B. with a Rocephin 300 mg. injection and recommended a follow up visit in 1 day. (Joint Exhibit 1, p. 216.) (Plaintiff's Exhibit No. 1, p. 010.) (Joint Stipulation, Docket No. 56, ¶37.) [Vomiting "since birth" noted for the third time.]

29. On June 4, 2009 K.B. presented to the CNHC for follow-up for fever and seen by Ms. Rosenberger. The history of present illness notes she was doing better, taking thickened formula and Pedialyte, had lots of wet diapers, and a history of "vomiting throughout the day since birth." The assessment included vomiting with moderate pylorospasm on UGI. K.B.'s head circumference was noted to be 43.18 cm and her weight was 14.06 lbs or 6.38 kg. The radiology request noted that

"since birth – vomits – everything." The radiology report stated:

> Following oral administration of barium meal, fluoroscopic and radiographic evaluation of the esophagus, stomach and proximal small bowel demonstrates no evidence of gastroesophageal reflux. A normal esophagus was demonstrated. No evidence of nasopharyngeal or gastroesophageal reflux. Moderate transient pylorospasm of the stomach. No pyloric stenosis. No evidence of malrotation.
> The proximal small bowel is normal.
> Impression: 1. Moderate transient pylorospasm in an otherwise unremarkable upper gastrointestinal series. (Joint Exhibit 1, p. 296.)

Ms. Rosenberger consulted with Dr. Cole and reported that Dr. Cole recommended no Zantac at this time advised mom vomiting should lessen with age and increased solid foods. The follow-up plans were for K.B. to return for her 6 month Well Child Check or sooner if she does not continue to improve. On June 4, 2009, x-rays of the upper gastrointestinal, performed at CNHC revealed moderate transient pylorospasm of the stomach. (Joint Exhibit 1, pp. 211, 212 and 358.) (Joint Stipulation, Docket No. 56, ¶38.) (Plaintiff's Exhibit No. 1, p. 010.) [Fourth notation of vomiting "since birth."]

30. On June 30, 2009 K.B. had her 6 month Well Child Check with Dr. Cole at CNHC. K.B.'s mother expressed concern about pylorospasm. The records indicate that K.B.'s length was 65.55cm. Her weight was 6.98 kg. And her head circumference was 44.45 cm. K.B.'s extremities/clavicle/hips were normal with full range of motion. Her fontanels were assessed as normal soft and flat. Her neuromotor skills were assessed as normal. Dr. Cole provided an overall assessment of healthy with no problems and recommended taking appropriate vaccinations and a recheck at 9 months of age. [The court notes that this is apparently only the fourth time the records indicate a measurement of length.] (Joint Exhibit 1, pp. 204-206.) (Plaintiff's Exhibit No. 1, p. 010.) (Joint Stipulation, Docket No. 56, ¶39.)

31. On October 30, 2009 when she was 10 months of age, K.B. presented to CNHC and

was seen by Dr. Charles Woodridge for a cough, runny nose, and irritable eyes with drainage. Dr. Woodridge provided an assessment of upper respiratory infection (URI). There was noted to be no history of vomiting or loose stools. The records indicate that her head circumference was 48.26 cm and her weight was 8.99 kg. [No length measurement noted.] (Joint Exhibit 1, p. 197.) (Plaintiff's Exhibit No. 1, p. 010.). (Joint Stipulation, Docket No. 56, ¶40.)

32. On January 10, 2010, K.B. was seen at the Emergency Department of CNHC for a rash on the abdomen, legs, and back. K.B. was provided a diagnosis of Fifth disease and prescribed Motrin 100 mg/5 ml. K.B. was discharged and recommended to follow up with Primary Care Physician in 5-7 days. (Plaintiff's Exhibit No. 1, p. 010.)

33. On February 9, 2010 K.B. was seen by Dr. Woodridge at CNHC with a runny nose and cough. Her weight was 10.04 kg and head circumference was 45.72 cm. [No length measurement noted.] Dr. Woodridge provided an assessment of URI and recommended following up as needed. The history of present illness section did not mention complaints of vomiting. (Plaintiff's Exhibit No. 1, p. 010.) (Joint Exhibit 1, p. 193.) (Joint Stipulation, Docket No. 56, ¶41.)

34. On March 8, 2010, K.B. was seen by Barbara J. Howell, M.D. for no sleeping or eating. Dr. Howell noted K.B. was "not a happy baby" and acts if she is terrified of everything and indicated she only takes 15 minute naps, never has slept well, wakes up at night crying and tremoring, was scared of baths, which previously she was not, and walked at 14 months. [This is obviously history given by the mother.] Her head circumference was noted to be 48.26 cm and her weight was 23.06 lbs. (10.47 kg). [No length measurement noted.] Her first premolars had erupted partially and her gums were swollen over her canines. Dr. Howell provided assessments of separation anxiety, follow up OM, and teething and recommended decreasing juice in diet to 4

ounces daily, limiting sugary foods, Tylenol as needed, increasing roughage in diet, increasing calcium, and 2 portions of meat groups per day. [No history of vomiting noted.] (Joint Exhibit 1, pp. 189-190.) (Plaintiff's Exhibit No. 1, pp. 010-011.)

35. On April 19, 2010 when she was 15 months old, K.B. presented to Dr. Cabeza at CNHC with complaints of a one day history of vomiting. Her head circumference was noted to be 49.53 cm and weight was 22.06 lbs. (10.02 kg.) [No length measurement noted.] She was given an assessment of vomiting and prescribed Promethazine-T suppository 12.5 mg. Dr. Cabeza recommended hydration with Pedialyte. She was told to return if the condition did not improve or if she was not keeping any food down. [The records do not indicate review of systems as to her neurological, musculoskeletal, or psychological condition.] (Joint Exhibit 1, pp. 185-186.) (Joint Stipulation, Docket No. 56, ¶43.) (Plaintiff's Exhibit No. 1, p. 011.)

36. At 20 months of age on August 9, 2010 K.B. presented to the CNHC for her last Well Child Check with Dr. Cole. The chief complaint included "leg problems – bow legged – when she gets in hurry she falls a lot per mom." At this time her head circumference was noted to be 50.17 cm and her weight was 24.81 lbs. (11.26 kg). Her height was 33.0 (83.82 cm). Dr. Cole noted that she was a "healthy 18 month old child; presents with inturning of the right foot." Dr. Cole found prominent intoeing of the right foot and ordered an x-ray of the hips/knees to exclude pathology and taking appropriate vaccinations. The x-ray indicated "right rotation of foot-likely tibial torsion. Significant unilateral torsion." The radiologist noted that "[t]here is no identifiable fracture or dislocation. Osseous deformity is not appreciated. Soft tissues unremarkable. Impression: 1. Unremarkable bilateral lower extremity examination." (Plaintiff's Exhibit No. 1, p. 011.). (Joint Exhibit 1, pp. 180-182, 294.) (Joint Stipulation, Docket No. 56, ¶44 and ¶45.) [In essence, the x-

ray revealed no abnormalities. While ultimately not the case, the lack of abnormalities could indicate a neurological cause.]

37. Some of K.B.'s head circumference measurements taken at CNHC may have been incongruous or maybe even inaccurate. Still, Defendant did not clearly explain and no evidence was clearly presented showing K.B.'s head circumference did not cross two standard deviations during the time she was being seen at CNHC. No clear evidence was presented showing that head circumference measurements are more often falsely larger than smaller. Indeed, despite claimed head circumference measurement inaccuracies, Dr. Cole testified that from the time of birth until her six month well child visit, K.B.'s head circumference passed through the 25th, 50th, 75th, 90th, and 95th percentiles. (Plaintiff's Exhibit 4 and Deposition of Dr. Cole at 92:17-22; 109:18-25; 110:1-8; 128:21-25; 129:1-2; 137:20-25; 138:1-12; 143:21-25; 144:1-25; 145:1; and 146:3-24.)

38. An important and basic concept in practicing pediatric primary care is that the head circumference needs to be plotted on a growth chart because it may identify a trend. K.B.'s head circumference was constantly crossing percentile lines. (Trial Transcript at 22:5-15; 22:24-25; 23:1-5.)

39. Dr. Cole testified that a child should be evaluated for macrocephaly based on head circumference measurements when they cross two standard deviations at any time in the first two years of life. Dr. Cole testified that if a child's head circumference is passing through the standard percentiles at any time during the first two years of life, that should place hydrocephalus or some type of macrocephaly on the pediatrician's differential diagnosis. Dr. Cole testified that, standing alone, expansion of head circumference across two standard percentile lines should put hydrocephalus on the pediatrician's differential diagnosis. Dr. Cole agreed that K.B.'s head

circumference crossed through several percentile lines during the first six months of life, but that no imaging was ever done on K.B.'s head at CNHC. (Trial Transcript at 227:3-7; 229:21-25; 230:1-4; 237:2-25; 238:1-11; 226:8-10.)

40. K.B.'s head circumference and height measurements did not track one another. That is, her head was expanding abnormally upwards through the percentile lines while her height remained relatively stable. The growth measurements clearly show that there was not a parallel movement upwards with the height and head circumference. (Trial Transcript at 37:20-25; 38:1-9; 38:10-17.) [This information is difficult to glean from the records because of CNHC's failure to show plotting of the height values in relation to weight and head circumference. Also, valid reasons may exist for the rarity of length measurements, but Defendant did not explain this at trial.]

41. According to Dr. Smith, in a majority of cases in this patient population, abnormal head growth like K.B.'s is the first indication of hydrocephalus. Dr. Smith testified that based on the measurements of K.B.'s head circumference, there should have been a concern she had hydrocephalus or some other brain abnormality going on at 5 or 6 months-old, and the standard of care required a head ultrasound or other imaging. (Trial Transcript at 34:4-6.; 40:24-25; 41:1-9.)

42. Developmental milestones must be considered in determining if a patient has hydrocephalus. (Trial Transcript, p. 308.)

43. Developmental milestones are delayed in a patient with intracranial pressure from hydrocephalus. (Trial Transcript, p. 308.)

44. K.B. never exhibited an alteration in speech while in the care and treatment of the CNHC. (Trial Transcript, p. 80.)

45. K.B. never exhibited bulging fontanels while in the care and treatment of the CNHC.

(Trial Transcript, p. 80.)

46. K.B. never exhibited abnormalities of eye movement while in the care and treatment of the CNHC. (Trial Transcript, p. 80.)

47. K.B. never exhibited the sunset sign while in the care and treatment of the CNHC. (Trial Transcript, p. 81.)

48. K.B. never exhibited increased reflexes while in the care and treatment of the CNHC. (Trial Transcript, p. 81.)

49. K.B. never exhibited clonus of the ankles while in the care and treatment of the CNHC. (Trial Transcript, pp. 81-82.)

50. K.B. never exhibited the Babinski sign while in the care and treatment of the CNHC. (Trial Transcript, p. 82.)

51. Those are all signs and symptoms of hydrocephalus. (Trial Transcript, p. 82.)

52. Intracranial pressure resulting from hydrocephalus may present as unexplained vomiting, failure to reach developmental milestones, loss of developmental milestones or bulging fontanels. (Trial Transcript, pp. 270-271.)

53. In diagnosing any disease, including hydrocephalus, the healthcare provider must consider the entire clinical context of the child. (Trial Transcript, p. 40.)

54. A Differential Diagnosis is a basic medical technique that physicians use, including Dr. Cole. A Differential Diagnosis is a list of illnesses or conditions that the patient may have, given their signs and symptoms. The physician has a duty to prioritize the potential illnesses and conditions from the most threatening and in need of attention to the least threatening and in need of attention. (Deposition of Dr. Cole at 71:23-25; 72:1-7.)

55. On August 19, 2010, K.B. presented to Melinda Scantling, APRN, at the Affordable After Hours Clinic in Heavener, OK with a chief complaint of pulling at her left ear. Her height was 33.07 (84.00 cm). Her weight was 24 lbs. (10.89 kg). (Joint Exhibit 5, p. 1.) [The record specifically notes a denial of history of vomiting. Also, the head was described as normocephalic.]

56. On September 20, 2010, K.B. presented to Melinda Scantling, APRN, at the Affordable After Hours Clinic in Heavener, OK with a chief complaint of a cough. The records indicate K.B. denied any nausea/vomiting at the time of the visit and described K.B.'s head as normocephalic. There is no indication her head circumference was measured during this visit. Her weight was 24 lbs. (10.89 kg). (Joint Exhibit 5, p. 4.) (Joint Stipulation, Docket No. 56, ¶47.) [The court could infer that no circumference measurement was taken because the head appeared normal.]

57. On October 1, 2010, K.B. presented to Shane Ashford, DO, at the Family Medical Clinic in Poteau, OK with a chief complaint of intoeing of the right foot. K.B.'s mother reported "intoeing mainly on right no family history. She has trouble walking with increased falls. No previous injuries but mother concerned since she cannot go anywhere without being commented on here [sic] walking." The records indicate K.B.'s height was 35.5 inches (70.70%), weight was 26 lbs. (56.93%) and head circumference was 19 inches/48.26 cm (81.25%). Dr. Ashford described K.B.'s musculoskeletal exam as: "gait: slowed, unsteady, and wide-based; grossly normal tone and muscle strength; no laxity or subluxation of any joints, right in toeing some tibial torsion." Dr. Ashford referred K.B. to Shriners Hospital for evaluation of intoeing. (Joint Exhibit 6, p. 19.) (Joint Stipulation, Docket No. 56, ¶48.) [The court notes that no history of vomiting is given, and the fontanelle is described as soft and flat.]

58. On October 26, 2010 K.B. presented to Shriners Hospital in Shreveport with a chief

complaint of internal rotation of the right leg. The Review of Systems indicates K.B. had no history of gastrointestinal problems. Physical examination revealed K.B. had a normocephalic head. Physical exam of K.B.'s lower extremities exhibited full and painless range of motion in her hips, knees and ankles with slight internal tibial rotation on the right. She walked with some intoeing on the right side only due to tibial torsion. She did not have any corresponding tightness of her hamstrings or heel cords and walked with a good heel strike. She had no significant problems on regular walk. K.B. did not have her head circumference measured. (Joint Exhibit 4, pp. 2-4.) (Joint Stipulation, Docket No. 56, ¶49.) She had no significant problems on regular walk. A neurologically caused gait abnormality would have corresponding tightness in the hamstrings and heel cords. K.B.'s gait abnormality was due to tibial torsion. (Joint Exhibit 4, pp. 2-4; Trial Transcript, pp. 70-73). K.B. would not be able to walk with a good heel strike as demonstrated at Shriners Hospital if there was a neurological cause to her gait abnormality. (Trial Transcript, pp. 372-373).

59. On January 4, 2011 K.B. presented to Dr. Ashford at the Family Medical Clinic in Poteau, OK with complaints of earache and fever. Review of systems indicates K.B. was negative for diarrhea, nausea and vomiting. K.B.'s height was 35 inches (79.83%), weight was 28 lbs. (67.32%), and head circumference was 20 inches/50.8 cm (99.21%). Dr. Ashford diagnosed an upper respiratory infection. (Joint Exhibit 6, p. 17.) (Joint Stipulation, Docket No. 56, ¶50.)

60. On January 18, 2011 K.B. presented to the Family Medical Clinic in Poteau, OK and was assessed with polyphagia. (Joint Exhibit 6, p. 16.) (Joint Stipulation, Docket No. 56, ¶51.) [The court notes neither party indicated polyphagia (excessive hunger) is a symptom of hydrocephalous.]

61. On January 20, 2011 K.B. presented to Dr. Ashford at the Family Medical Clinic in Poteau, OK with a 3 day history of fever, nausea and vomiting. Her height was 35 inches (75.71%), weight was 28 lbs. (64.98%), and head circumference was 20.5 inches/52.07 cm (99.95%). Musculoskeletal exam revealed grossly normal tone and muscle strength with no laxity or subluxation of any joints. Dr. Ashford diagnosed acute gastritis without mention of hemorrhage. (Joint Exhibit 6, pp. 14-15.) (Joint Stipulation, Docket No. 56, ¶52.)

62. On January 25, 2011 K.B. presented to Dr. Ashford at the Family Medical Clinic in Poteau, OK with vomiting immediately after meals for the past week. She also presented with fever, nasal congestion, cough and constipation. Her height was 35 inches (74.31%), weight was 28 lbs. (64.24%) and head circumference was 20 inches/50.8 cm (99.03%). Dr. Ashford diagnosed viral gastroenteritis and constipation. He sent her to the ER at the Eastern Oklahoma Medical Center (EOMC) in Poteau, OK for IV fluids, x-ray and blood work and ordered an abdominal ultrasound. The records from EOMC on January 25, 2011 indicate K.B. had a sudden onset of nausea and vomiting 14 days prior. The nurse's neurological exam revealed K.B. was alert, consolable and normal for age. (Joint Exhibit 2, p. 3.) (Joint Exhibit 6, pp. 12-13.) (Joint Stipulation, Docket No. 56, ¶53.) [No mention is made by either party of any correlation or progression between the height, weight and head circumference on K.B.'s visits to Dr. Ashford, although he consistently noted length measurements while CNHC did not.]

63. On January 28, 2011 an ultrasound was performed on K.B.'s abdomen at EOMC due to reported vomiting for 18 straight days. The impression was noted to be "unremarkable ultrasound of the abdomen." (Joint Exhibit 2, p. 16.) (Joint Stipulation, Docket No. 56, ¶54.)

64. On February 7, 2011, K.B. was seen at the Emergency Department of Eastern

Oklahoma Medical Center for nausea and vomiting with duration of 2 weeks. X-rays of the abdomen revealed mild to moderate amount of colonic stool, mostly at the splenic flexure and descending colon. K.B. was provided an impression of constipation and discharged home (recommendations illegible). (Plaintiff's Exhibit No. 1, p. 011.)

65. On February 11, 2011, K.B. was seen at the Emergency Department of Eastern Oklahoma Medical Center for nausea and vomiting. K.B. underwent a CT in the morning on this date. She was diagnosed with hydrocephalus and was told to be seen at the emergency department. A CT of the brain revealed massive dilation of the lateral and third ventricles, some mild dilation of the fourth ventricle, cavum septum pellucidum, areas of cystic encephalomalacia bilaterally within the basal ganglia, diffuse sulcal effacement, no evidence of intracranial hemorrhage or acute cortical infarct, and mucosal thickening within the maxillary sinuses. K.B. was provided an impression of hydrocephalus and was transferred to Saint Francis Hospital in good condition. (Plaintiff's Exhibit No. 1, p. 011.)

66. Also on this date (February 11, 2011), K.B. was evaluated at Saint Francis Hospital by Alisha J. Jones, M.D. for a new diagnosis of hydrocephalus. Dr. Jones provided assessments of 2-year old female with newly diagnosed hydrocephalus with differential diagnoses of congenital duct stenosis versus brainstem neoplasm. Dr. Jones recommended a neurological consultation, Zofran for nausea, neurologic checks every 4 hours and keeping K.B. NPO until seen by Neurosurgery. (Plaintiff's Exhibit No. 1, p. 011.)

67. On February 12, 2011, K.B. was evaluated by Douglas R. Koontz, M.D. who provided an impression of hydrocephalus. Dr. Koontz noted it was probably congenital aqueductal stenosis which had obviously gone on for some time and was getting worse. Dr. Koontz noted

K.B.'s head size was enlarged and the ventricular system was very enlarged including the third ventricle which prompted Dr. Koontz to believe it was aqueductal stenosis. Dr. Koontz recommended obtaining an MRI and noted he would speak to a Dr. Benner to discuss the possibility of a third ventriculostomy to try and avoid a shunt. Dr. Koontz noted if Dr. Benner did not think a ventriculostomy was appropriate they would put in a shunt and noted he thought K.B. will always have ventricular enlargement and was at high risk for subdurals. (Plaintiff's Exhibit No. 1, p. 011-012.) [The court notes with interest the phrase that it "had obviously gone on for some time."]

68. On February 14, 2011, an MRI of the brain revealed prominent dilatation of the lateral and third ventricles, dilatation localized to the cerebral aqueduct with findings suggesting stenosis of the lower aspect of the cerebral aqueduct and the fourth ventricle was not dilated. (Plaintiff's Exhibit No. 1, p. 012.)

69. On February 16, 2011, K.B. underwent right frontal burr hole, third ventriculostomy, third ventriculotomy and placement of ventricular access device, performed by Benjamin G. Benner, M.D. (Plaintiff's Exhibit No. 1, p. 012.)

70. On February 17, 2011, K.B. was discharged from Saint Francis Hospital with discharge diagnoses of congenital hydrocephalus, status post third ventriculostomy with vomiting and dizziness resolved. Dr. Jones noted K.B. was discharged on Tylenol with Codeine 120,12mg/5mL and was recommended activities as tolerated, following up at Sooner Start for help with development, and following up with Dr. Shane Ashford in 1 to 3 days and Dr. Benner in 2 weeks. (Plaintiff's Exhibit No. 1, p. 012.)

71. K.B. remained a patient at St. Francis from February 11, 2011 to February 17, 2011. On admission her head circumference was noted to be 53 cm. She was hospitalized for vomiting,

dizziness, headache, and hydrocephalus. During her stay a brain MRI on February 14, 2011 suggested congenital aqueductal stenosis with marked hydrocephalus of lateral and third ventricles. She underwent a third ventriculostomy on February 16, 2011 by Dr. Benner. (Joint Exhibit 3, p. 273.) (Joint Stipulation, Docket No. 56, ¶57.)

72. A CT of K.B.'s head on March 2, 2011 at St. Francis showed hydrocephalus minimally decreased compared to the February 14, 2011 brain MRI. (Joint Exhibit 3, p. 260.) (Joint Stipulation, Docket No. 56, ¶58.)

73. On March 2, 2011, a CT of the head, obtained at Saint Francis Hospital, revealed hydrocephalus involving the lateral and third ventricle only minimally decreased compared to the MRI study of February 14, 2011 and right ventricular shunt present. (Plaintiff's Exhibit No. 1, p. 012.)

74. On March 30, 2011 a CT scan of K.B.'s head was done after a history of nausea and vomiting, which re-demonstrated massive dilatation of the lateral and third ventricles with some dilatation of the fourth ventricle. There was no change in the appearance of encephalomalacia in the bilateral basal ganglia. The impression was "interval placement of right ventricular shunt terminating in right lateral ventricle body. No change in size of ventricles." (Joint Exhibit 2, p. 39.) (Joint Stipulation, Docket No. 56, ¶59.)

75. On March 30, 2011, K.B. was seen at the Emergency Department of Eastern Oklahoma Medical Center for nausea and vomiting. A CT of the head revealed interval placement of a right ventricular shunt entering the frontal lobe and terminating in the body of the right lateral ventricle, re-demonstrated massive dilation of the lateral and third ventricles with some dilation of the fourth ventricle, and cavum septum pellucidum. K.B. was provided impressions of vomiting and

hydrocephalus and provided a discharge instruction sheet. K.B. was discharged in good, stable condition and recommended to follow up with Dr. Benner. (Plaintiff's Exhibit No. 1, p. 012.)

76. On March 31, 2011 K.B. was re-admitted to Dr. Benner at St. Francis who converted the third ventricular access device to a ventriculoperitoneal shunt. She was discharged on April 1, 2011. (Joint Exhibit 3, p. 225.) (Joint Stipulation, Docket No. 56, ¶60.)

77. On March 31, 2011, K.B. was admitted to Saint Francis Hospital and evaluated by Dr. Benner for evaluation of recurrent nausea and imbalance in a child with aqueductal stenosis. Dr. Benner provided a clinical impression of recurrent obstructive hydrocephalus and recommended a conversion of a ventricular access device to a ventriculoperitoneal shunt. (Plaintiff's Exhibit No. 1, p. 012.)

78. Also on this date (March 31, 2011), K.B. underwent diversion of third ventricular access device to ventriculoperitoneal shunt, performed by Dr. Benner. (Plaintiff's Exhibit No. 1, p. 012.)

79. On April 1, 2011 , K.B. was discharged from Saint Francis Hospital with a final diagnosis of communicating hydrocephalus and recommended following up at the Choctaw Nation. (Plaintiff's Exhibit No. 1, p. 012.)

80. On April 4, 2011 K.B. returned to St. Francis with a chief complaint of vomiting. Dr. Anna Lloyd's impression was vomiting status post shunt placement and altered mental status. K.B. was admitted to St. Francis for further care. K.B. was discharged from St. Francis on April 6, 2011 with discharge diagnoses of: (1) viral infection status post ventriculoperitoneal shunt placement, stable, (2) vomiting, resolved, and (3) ataxia improved. (Joint Exhibit 3, pp. 171 and 176.) (Joint Stipulation, Docket No. 56, ¶61.)

81. On April 4, 2011, K.B. was taken to the Emergency Department of Saint Francis Hospital with a chief complaint of post brain surgery vomiting. X-rays of the shunt tube revealed a right frontal ventriculostomy shunt in place, tubing appeared contiguous in the projection of the head, right side of the neck and chest, and the distal tip of the shunt tubing was in the projection of the inferior margin of the liver. A CT of the head revealed no improvement of the ventricular dilation, transverse dimension of the posterior portion of the lateral ventricles measured at 8.4 cm, previously 9.5 cm, the angle of the cut was slightly different, measuring approximately 90 mm compared to 95 mm before, sulci showed less effacement and was more easily visualized bilaterally, especially on the left, a small cerebrospinal fluid (CSF) space on the left, which was about 2.5 mm maximum over the parietal region, not seen previously, the third ventricle measured 1.8 cm transverse, and enlarged temporal horns. (Plaintiff's Exhibit No. 1, p. 012-013.)

82. Also on this date (April 4, 2011), K.B. was evaluated by Anna M. Loyd, D.O. for vomiting. Dr. Loyd noted K.B. had laboratory work done in the emergency department. Dr. Loyd provided impressions of vomiting, status post shunt placement and altered mental status and recommended admission to hospital for further care. (Plaintiff's Exhibit No. 1, p. 013.)

83. On April 5, 2011, K.B. underwent a Neurosurgery consultation with Dr. Benner for nausea and vomiting following shunt procedure. Dr. Benner recommended another 12 hours of observation and considered tapping the reservoir cap for pressure and fluids if no improvement occurred. (Plaintiff's Exhibit No. 1, p. 013.)

84. On April 6, 2011, K.B. was seen by Keith D. Mather, M.D. for evaluation of nausea and vomiting status post placement. Dr. Mather noted staggering gait, ear pain, right eye

pain, and mild complaint of dizziness and provided assessments of status post shunt placement with nausea and vomiting and past medical history of hydrocephalus, status post third ventriculostomy, nausea, vomiting, right ear pain, staggering gait, and decreased oral intake. Dr. Mather recommended observing K.B. overnight and initiating Zofran and Tylenol. (Plaintiff's Exhibit No. 1, p. 013.)

85. Also on this date (April 6, 2011), K.B. was discharged from Saint Francis Hospital by Dr. Mather with discharge diagnoses of viral infection status post ventriculoperitoneal shunt placement stable, vomiting resolved and ataxia improved and recommended activities as tolerated and following up with Primary Care Physician and Neurosurgeon, Dr. Benner. (Plaintiff's Exhibit No. 1, p. 013.) [Ataxia was the most likely cause of K.B.'s "staggering gait," not her intoeing.]

86. On May 10, 2011 a CT of K.B.'s head at St. Francis showed a significant decrease in size of the third and lateral ventricles and new prominent extraaxial fluid collections. (Joint Exhibit 3, p. 160-161.) (Joint Stipulation, Docket No. 56, ¶62.)

87. On May 10, 2011, a CT of the head, performed at Saint Francis Hospital, revealed the lateral ventricles slit-like in appearance, significantly decompressed compared to the degree of ventriculomegaly demonstrated on the previous examination, the third ventricle was significantly decompressed as well with the fourth ventricle, significant new bilateral convexity fluid collections with the right collection measuring approximately 2.3 cm in width/depth and the left measuring approximately 1.6 cm, and an apparent mass effect upon the underlying cerebral hemispheres. (Plaintiff's Exhibit No. 1, p. 013.)

88. On May 26, 2011 a CT of K.B.'s head at St. Francis revealed no significant

change since May 10, 2011 and bilateral subdural hygromas. (Joint Exhibit 3, p. 150.) (Joint Stipulation, Docket No. 56, ¶63.)

89. On May 26, 2011, a CT of the head, performed at Saint Francis Hospital, revealed bilateral subdural hygromas. (Plaintiff's Exhibit No. 1, p. 013.)

90. Also on this date (May 26, 2011), K.B. had a follow up visit with Dr. Benner for a ventricular collapse . Dr. Benner noted almost a complete collapse of the ventricles with large subdural effusions via CT. Dr. Benner provided a clinical impression of low-pressure phenomena producing ventricular collapse and recommended admission for a programmable shunt. (Plaintiff's Exhibit No. 1, p. 013.)

91. On May 31, 2011 K.B. was re-admitted to St. Francis for a chief complaint of ventricular collapse. Dr. Benner placed a programmable shunt and she was discharged on June 1, 2011. (Joint Exhibit 3, p. 129.) (Joint Stipulation, Docket No. 56, ¶64.)

92. On May 31, 2011, K.B. was seen by Dr. Benner who provided a clinical impression of shunted hydrocephalus with over-shunting and recommended admission placement of a programmable valve. (Plaintiff's Exhibit No. 1, p. 014.)

93. On June 1, 2011, K.B. underwent revision of ventriculoperitoneal shunt and replacement of Omni low-pressure shunt with a programmable shunt, performed at Saint Francis Hospital by Dr. Benner who prescribed Lortab and recommended resting, drinking plenty of fluids, and a follow up visit in 2 weeks. (Plaintiff's Exhibit No. 1, p. 014.)

94. A CT of K.B.'s head on June 16, 2011 at St. Francis showed a large subdural hematoma, chronic subdural hygroma, and a stable ventriculostomy catheter with decompressed ventricular system. She was discharged on June 20, 2011. (Joint Exhibit 3, pp. 21 and 119.)

(Joint Stipulation, Docket No. 56, ¶65.)

95. On June 16, 2011, a CT of the head, performed at Saint Francis Hospital, revealed stable decompression of the lateral and third ventricle, stable large, right chronic subdural hygroma, measuring up to 2 mm, and effacement of the cortical sulci on the left side with development of a large isodense subdural hematoma, measuring about 5 cm in greatest diameter with midline shift. (Plaintiff's Exhibit No. 1, p. 014.)

96. Also on this date (June 16, 2011), K.B. had a follow up visit with Dr. Benner for irritability and subdural fluid collection. Dr. Benner recommended admission for a small bur hole, aspiration and change in valve pressure. (Plaintiff's Exhibit No. 1, p. 014.)

97. K.B. was re-admitted to St. Francis on June 16, 2011 and the following day she underwent a left frontal burr hole with evacuation and drainage of a chronic subdural hematoma (semi-acute) as well as reprogramming of the programmable shunt. (Joint Exhibit 3, p. 24-25.) (Joint Stipulation, Docket No. 56, ¶66.)

98. On June 17, 2011, K.B. underwent left frontal bur holes with evacuation and drainage of a chronic subdural hematoma, semi-acute, and reprogramming of the programmable shunt, performed by Dr. Benner. (Plaintiff's Exhibit No. 1, p. 014.)

99. Also on this date (June 17, 2011), a CT of the head revealed air and a drain in the left subdural space, interval decrease in the left subdural hematoma, which measured about 12 mm in thickness, chronic right subdural hematoma, measuring about 17 mm, and areas of old infarct in the deep white matter, bilaterally. (Plaintiff's Exhibit No. 1, p. 014.)

100. On June 19, 2011, a CT of the head revealed bilateral subdural hematomas, a scant amount of new left subdural hemorrhage, as evidenced by increased density within small

portions of the left subdural collection, and effacement of sulci bilaterally. (Plaintiff's Exhibit No. 1, p. 014.)

101. On June 20, 2011, K.B. was provided final diagnoses of over-shunted hydrocephalus and subdural hematoma and recommended activities as tolerated and a follow up in 10 days with CT of the head. (Plaintiff's Exhibit No. 1, p. 014.)

102. On September 29, 2011 K.B. had another CT of her head that showed bilateral acute on chronic subdural hematomas. Overall attenuation is increased bilaterally. Overall size of subdural hematomas decreased from prior. (Joint Exhibit 3, p. 13-14.) (Joint Stipulation, Docket No. 56, ¶67.)

103. On September 29, 2011, a CT of the head, performed at Saint Francis Hospital, revealed bilateral hemispheric subdural hematomas were decreased in size from prior examination, maximum thickness over the right parietal occipital region was 11 mm compared to 19 mm on prior examination, maximum thickness on the left side was 4 mm compared to the 14 mm on prior examination with both sides showing generalized increased attenuation from prior examination, more punctate foci of acute appearing blood products, including the right and posteriorly on the left, and resolved pneumocephalus. (Plaintiff's Exhibit No. 1, p. 014.)

104. Dr. Benner saw K.B. later on September 29, 2011 and noted that he had reviewed her last 4 scans. He found that the latest scan showed ventricles were fairly stable and her cerebral fluid collection is actually just a little bit smaller with mainly residual on the right. She had disproportion between the cranial contents and capacity. She was going to have to grow into her head. (Joint Exhibit 7, p. 30.) (Joint Stipulation, Docket No. 56, ¶68.) [The court infers that K.B.'s head was observed to be abnormally large.]

105. On November 17, 2011 Dr. Benner saw K.B. and found that she had headache complaints. She had a head circumference of 52 cm with a relatively normal head shape. (Joint Exhibit 7, p. 31.) (Joint Stipulation, Docket No. 56, ¶69.) [Two months later, the head shape was unremarkable.]

106. On December 29, 2011 the Family Medical Clinic records noted that K.B. was having problems with her right leg hurting again with some limp and report that when she walks her foot would slap the floor. (Joint Exhibit 6, p. 23.) (Joint Stipulation, Docket No. 56, ¶70.)

The objective findings above provide the primary basis for the court's decision. Nevertheless, a description of each of the parties' theories of the case, along with an analysis of those theories and evaluation of certain witnesses' testimony will better explain and support the additional findings and conclusions to be made by the court.

Plaintiff's Theory of the Case

Although K.B. was born with hydrocephalus through no fault of CNHC, Dr. Cole and other personnel there should have included hydrocephalus on the differential diagnosis and ruled it out as a possible condition at some time when K.B. was five to six months old. The primary justification for such a diagnosis was K.B.'s rapidly growing head circumference up to this time, having crossed several percentile markers, combined with constant vomiting and gait abnormality, all of which are signs of hydrocephalus. Thus, some type of imaging, probably a sonogram, should have been done. The imaging would have shown the presence of hydrocephalus, prompting much earlier treatment and thus fewer mental and physical deficits from which K.B. may be suffering.

Defendant's Theory of the Case

K.B.'s head size appeared normal to every health professional who examined her. While her head circumference did pass through several percentiles, it was not incongruent with measurements of K.B.'s length and weight. In any event, Defendant believes K.B.'s head measurements were inaccurate. K.B.'s vomiting was not "pervasive" or pathologic and always responded to treatment, was reasonably determined by CNHC to result from pylorospasm and thus was not unexplained. All of the health care professionals who examined K.B.'s gait abnormality attributed it to a musculoskeletal, not a neurological condition. K.B. never exhibited signs of intracranial pressure, such as bulging fontanels. Most importantly, K.B. never exhibited a regression or loss of developmental milestones or any of the constellation of neurological signs that are associated with hydrocephalus.

Although present from birth, K.B.'s hydrocephalus was a result of mild aqueductal stenosis resulting in a delayed development of intracranial pressure in the lateral and third ventricles. Thus, the ability to diagnosis K.B.'s hydrocephalus was delayed until the 45 day saga of unexplained vomiting K.B. experienced when she was seeing Dr. Ashford, one hundred forty days after last being seen at CNHC.

Analytical Guideposts

The theories of both parties find substantial evidentiary support in the record. Thus, more than even most other medical negligence cases, this one shows the tension between a number of means of analyzing of the evidence. First, the Plaintiff here may be <u>retrospectively</u> finding a constellation of indications of hydrocephalus that at the time of K.B.'s clinical presentation would have required medical personnel to diagnose hydrocephalus under the

applicable standard of care. Conversely, medical personnel here may themselves be retrospectively finding "explanations" for indications and symptoms of hydrocephalus at the time of K.B.'s clinical presentation that justify their not diagnosing it.

The second pair of conflicting analyses are equally thought provoking. First, some "black letter rules" must exist for mandatory diagnostic steps to be taken when certain signs and symptoms are exhibited on clinical presentation. For example, when a child's head circumference grows over two percentiles within two years of birth, hydrocephalus should be at the top of the differential diagnosis because it is the most common cause and must be ruled out as it can result in the most severe consequences. Conversely, upon clinical presentation, all of the child's signs and symptoms, taken as a whole, could make ruling out hydrocephalus (even when it is determined later that the child actually had it) justifiable or reasonable under the applicable standard of care.

For example, K.B.'s lack of neurological impairment, her meeting of all milestones, and her lack of physical signs of intracranial pressure decrease the likelihood of the existence of hydrocephalus. Compounding the complexity of this case resulting from the need to apply these competing analyses is the fact that the time period of the alleged negligence extends over fifteen months. Obviously, this is hardly a "one off" case, such as an iatrogenic perforation of the gall bladder during a laparoscopic cholecystectomy. In that case, the analysis of possible negligence is extremely focused. Here, however, a minute dissection of the variables present in the record covering over fifteen months is required.[2] Additionally, in a bench trial, when the evidence leaves the court confused, this is justifiably construed against the plaintiff, as the burden of

[2] Despite the court's stated desire not to do so. See p. 2, supra.

proof and persuasion should require. On the other hand, when confusion is inherent in the defendant's own evidence, such confusion necessarily undermines the ultimate persuasiveness of its theory of defense. With these analytical scalpels in hand, the court must first proceed to biopsy the major symptoms of this case:

A. Hydrocephalus was undoubtedly present at K.B.'s birth and undoubtedly caused the major head circumference measurements moving across several percentiles while she was being seen at CNHC. It also probably caused her frequent vomiting episodes.

B. Numerous medical personnel examined K.B. before her diagnosis on February 11, 2011 and did not recognize the presence of hydrocephalus. Indeed, Dr. Ashford, who ultimately made the diagnosis, did so only after examining K.B. five times over a 4 ½ month period and seven months after last being seen at CNHC. Even more noteworthy is the fact that after all these examinations by various doctors and nurses, K.B.'s head was never described as anything other than normocephalic. With that general overview, the court must proceed to various other segments of the controversy and the evidence.

Head Circumference

As noted above, K.B.'s head circumference measurements indisputably passed through several percentiles during the twenty months she was seen at CNHC. Defendant suggests the head circumference measurements were inaccurate because of the presence of a prominent occiput.[3] This is ultimately unpersuasive, as the trend of rapid growth through percentile markers is obviously present. Defendant also asserts that K.B.'s head size was not abnormal

[3] The questions arise whether such inaccuracy could itself be a breach of the standard of care, or, at the very least, whether such possible inaccuracies might be noted in the chart. See Defendant's Finding of Fact No. 76 [Docket No. 59, p. 9.]

when taking into account her weight and length. In weighing this argument, the court notes that K.B.'s length was measured only six times while her weight and head circumference were measured at almost every examination. Her length appears to have crossed two percentiles over eighteen months. The court was confused regarding the requisite congruency needed between these measurements to decrease the importance of head size. For example, if the head circumference crosses five percentile markers, must the length also cross five percentile markers for the growth to be "normal." This lack of explanation leaves the court unpersuaded by Defendant's assertion that increasing head circumference was not a cause for concern. Neither K.B.'s height or weight increased in size and crossed percentile markers to the degree of the head circumference.

Vomiting

Plaintiff argues that with abnormal growth in K.B.'s head circumference, her persistent vomiting was the additional sign that should have prompted further testing for hydrocephalus. Persistent vomiting can be a result of intracranial pressure which is a sign of hydrocephalus. K.B. presented many times at CNHC with a complaint of vomiting. Indeed, CNHC records noted K.B. was "vomiting since birth" four times. Also at times, K.B.'s weight often did not increase normally. Defendant correctly points out, however, that vomiting is a non-specific sign and Defendant deftly crafts a timeline showing lapses in episodes of K.B.'s vomiting. Furthermore, K.B.'s vomiting episodes were apparently alleviated to some extent by changes in diet and were "explained" by pylorospasm. Still, it seems apparent that K.B.'s vomiting episodes could be described as abnormally recurrent, thus providing another strong indication of hydrocephalus.

Intoeing/Gait Abnormality

Plaintiff claims K.B.'s intoeing is a neuromotor deficit ignored by CNHC as possibly resulting by hydrocephalus. As set forth below, the court has found that K.B.'s intoeing was musculoskeletal, based primarily on findings during K.B.'s examination at Shriners. Despite that ultimate conclusion, considering the x-ray taken at CNHC was unremarkable and showed no signs of musculoskeletal causation, the court believes that K.B.'s intoeing was, at the time, a possible sign of neuromotor deficit that should have bolstered the need to clearly rule out the presence of hydrocephalus with additional testing.

Neurological Signs

As noted above in Paragraphs 42-53, certain neurological signs may indicate the presence of hydrocephalus. K.B. never presented with any of these signs upon examination at CNHC. At least no such signs were documented. Defendant contends that the lack of a notation showing the existence of something like Babinski sign is evidence that it was not present. The court accepts this premise because, while the need for a doctor or nurse to document findings is of utmost importance, requiring documentation of everything observed (or not observed) in an examination is impractical.[4] Most of the examinations performed on K.B. at CNHC indicate a neuro-examination was performed. While a neuro-examination was not performed on a few occasions, the continuing trend of absent neurological signs is justifiably an important part of and provides support for the defense's theory of the case.

Another aspect of K.B.'s neurological presentation is her apparent meeting of all developmental milestones. The intoeing could be considered an exception, but the court is

[4] The court does not come to the same conclusion with regard to documentation of the primary differential diagnosis. See infra.

persuaded that K.B.'s meeting of developmental milestones reinforces the defense's theory of the case.

Joey Wright

The testimony of K.B.'s mother was disconcerting. At times, she was contradictory, over-reaching and evasive. These descriptors are hopefully attributable to a nervous, troubled mother on the witness stand for the first time. Still, the court found her testimony mostly unpersuasive. For example:

A. She claims she told CNHC medical personnel on every visit that K.B. was vomiting. The records belie this notion and she later admits that "maybe I didn't always say vomiting."

B. She claims she told all medical personnel K.B. saw after stopping going to CNHC that K.B. had projectile vomiting and a big, football-shaped head. This is not born out in the medical records.

C. She claims K.B. was "so skinny," when K.B.'s weight was objectively normal when she stopped going to CNHC.

D. Most troubling is Mrs. Wright's testimony that she stopped taking K.B. to CNHC because she thought K.B. was "going to die." Nevertheless, she never mentioned this to any subsequent medical personnel. She took K.B. to Nurse Scantling for colds and congestion. She took K.B. to Dr. Ashford for intoeing. It would seem that if a mother was actually concerned that her daughter was dying, this would prompt more decisive action.

Because of these testimonial issues, the court gives little weight to Mrs. Wright's testimony, including that testimony regarding whether K.B. was meeting her developmental

milestones and regarding K.B.'s present condition.

Dr. Marie Cole

Dr. Cole was the main provider examining K.B. at CNHC and, consequently, the main target of Plaintiff's criticism. Dr. Cole's testimony was confusing and the court construes that confusion against Defendant. This severely undermines the persuasiveness of Defendant's theory of the case.

At trial, Dr. Cole was unable to clearly articulate the standard of care for the management of K.B.'s condition when she presented at CNHC. She seemed to contradict herself on this very important issue in both her deposition and trial testimony. After reading her deposition, watching the video of her deposition, listening to her trial testimony and reading it (several times) in the trial transcript, the court believes Dr. Cole seems to concede that when a child's head circumference measurement crosses two percentile markers within the first few years of life, the child is macrocephalic. The most common cause of macrocephaly is hydrocephalus. Severe consequences result from failure to treat hydrocephalus. Therefore hydrocephalus should be at the top of her differential diagnosis of K.B. and be the first excluded as a cause of the macrocephaly. Dr. Cole said she did this by evaluating the other clinical information gathered from the medical records and her examinations of K.B., including comparison of prior head circumference measurements at each examination.

Unfortunately, nowhere in the medical records is there any notation that any CNHC personnel made these head circumference comparisons. Nowhere in the medical record did any CNHC personnel note that K.B.'s head circumference was macrocephalic. Nowhere in the chart is there any written notation that Dr. Cole ruled out hydrocephalus as the cause of K.B.'s

macrocephaly.[5]

The statement regarding medical charting, "if it isn't documented, it wasn't done," is sometimes overused and somewhat hackneyed. Under these circumstances, however, considering the undisputed, objective medical findings noted above, and in light of the potential severity of the condition of hydrocephalus and potentially grave outcomes, the failure to document any indication of macrocephaly or the ruling out of hydrocephalus is, in the end, fatal to Defendant's theory of the case regarding standard of care. The court draws the logical inference that CNHC personnel either did not include hydrocephalus on their differential diagnosis, or included and inappropriately excluded it without further testing such as brain imaging. Therefore, the court is obliged to enter the following conclusive factual findings:

107. The court finds that in this case the applicable standard of care required that the CNHC pediatricians regularly measure K.B.'s head circumference, compare the newest measurement to the older measurements to identify concerning trends, and take action, if necessary.

108. The standard of care required that the pediatricians at CNHC see and fully assess K.B. at regular intervals during the first two years of her life – 1 month, 2 months, 4 months, 6 months, 9 months, 12 months, 15 months, 18 months, and 24 months of age – during her first two years of life. (Trial Transcript at 207:16-25; 208.)

[5] The court was confused by two somewhat incongruous statements at trial. One was by Dr. Smith, Plaintiff's expert witness, who stated, "Well, in fact, hydrocephalus did show up on the differential diagnosis at five months of age, but it wasn't pursued." (Trial Transcript, p. 35, ll. 7-9.) The other statement, by Dr. Cole, was, "I can show you in the record that she did have macrocephaly. She had a large head." (Trial Transcript, p. 323, ll. 24-25.) The court searched diligently for the terms hydrocephalus, macrocephaly and even "big" head in all the CNHC records and found no mention of them. At an on-the-record telephone hearing on March 28, 2014, counsel for both parties agreed that the CNHC records contain no reference or mention of these terms.

109. As stated by Dr. Cole, the standard of care requires that at these intervals the pediatrician take a complete history on the various body systems, perform a complete physical exam, and perform a complete neurological exam during each well child visit. The standard of care requires that the physical exam be comprehensive, documented, and focus on specific assessments that are appropriate for the child's age, developmental phase, and needs. (Trial Transcript at 212:19-25; 213:1-22; 214:23-25; 215:1-5; 223:18-23; 247:8-14.) Abnormal head growth may be the first indication of an underlying congenital, genetic, or acquired problem, such as hydrocephalus. (Deposition of Dr. Cole at 54:24-25; 55:1-2.)

110. It would be a breach of the standard of care if a physician at CNHC failed to do a complete examination, measure a child's growth (including head circumference), compare the measurements to past measurements, and document the findings in the patient's chart. (Trial Transcript at 247:8-14.)

111. The paper head circumference growth chart in K.B.'s records at CNHC was blank until Dr. Cole filled it in at her deposition. At trial, Defendant did not offer a chart from its electronic medical records system showing that K.B.' s head circumference measurements were plotted and assessed at any time while K.B. was its patient. Dr. Cole doesn't know if anyone at CNHC did that. (Trial Transcript at 251:9-21; 252:1-4.) The medical chart contains no documentation it was done. (Trial Transcript at 255:7-10.)

112. Dr. Cole admitted that a child should be evaluated for macrocephaly if they cross two standard deviations at any time in the first 2 years of their life. (Deposition of Dr. Cole at 60:8-21.) That is, when they cross two or more of the following percentile lines in the first 2 years of life: 5%, 10%, 25%, 50%, 75%, 90%, 95%, and 100%. (Deposition of Dr. Cole at

60:23-25 and 61:1-5.)

113. Dr. Cole testified that during the first 9 months of K.B.'s life, the data from the CNHC records shows that her head circumference rapidly accelerated through multiple standard percentile lines. (Trial Transcript at 248:7-25; 249:1-4.)

114. The expansion of K.B.'s head was caused by hydrocephalus. (Trial Transcript at 257:16-18.)

115. K.B.'s head circumference and height measurements did not track one another. That is, her head was expanding abnormally upwards through the percentile lines while her height remained relatively stable while she was a patient at CNHC. The growth measurements clearly show that there was not a parallel movement upwards with the height and head circumference. (Trial Transcript at 37:20-25; 38:1-9.) If the CNHC providers believed that the height and head circumference measurements paralleled one another, they significantly misinterpreted their own data. (Trial Transcript at 38:10-17.)

116. A head ultrasound on K.B. (or a CT) at 5 or 6 months-old would have shown that she had hydrocephalus. (Trial Transcript at 41:21-24.) Defendant did not dispute this.

117. According to Dr. Cole, a physician has a duty to identify the most serious and life-threatening conditions on the differential diagnosis and rule them out in order from most dangerous to least dangerous. It is below the standard of care not to do so. (Trial Transcript at 246:18-24.)

118. A differential diagnosis is a basic medical technique that Dr. Cole uses and teaches in her practice. A differential diagnosis is a list of potential illnesses or conditions that the patient may be experiencing given certain signs and symptoms. The physician has a duty to

prioritize the potential illnesses and conditions from the most threatening and in need of attention to the least threatening and in need of attention. (Deposition of Dr. Cole at 71:23-25; 72:1-7.)

119. The court finds that the Defendant breached the standard of care in failing to recognize and document and act on the abnormal expansion of K.B.'s head from the time she was 5 months old and thereafter. The Defendant should have recognized that K.B. had hydrocephalus or some other intracranial pathology on its differential diagnosis and taken steps to rule such a condition out through imaging. The failure to recognize and document the trend in K.B.'s head circumference by the time she was 5 months-old led to the second breach of the standard of care: failing to refer K.B. for treatment of the hydrocephalus that the imaging studies would have shown. These failures caused a delay in diagnosing and treating K.B.'s condition until 2/11/2011 when she was diagnosed with hydrocephalus and began treatment.

Analysis and Findings of Fact Regarding Causation and Damages

Unlike a jury trial, the court in a bench trial has at least some obligation to provide rationales for any damage award. In this particular case, this problem is compounded by the parties' positions in taking an "all or nothing" approach to damages. The parties gave the court no guidance on what a damages award might be that takes into account K.B.'s preexisting hydrocephalus. Of course, it is the Plaintiff's burden of proof to do so.

The testimony given at trial by Dr. Hille contentiously demonstrated the close relationship between causation and damages in this case. Indeed, this is not a case of comparative negligence, but more a case of comparative causation. Defendant posits that because K.B.'s hydrocephalus was caused by a congenital condition, all of the post diagnosis

medical treatment, rehabilitation, and any loss of future income are obviated notwithstanding any failure to diagnose K.B.'s hydrocephalus by CNHC. In other words, because K.B. would have been born with hydrocephalus in any event, there is no way to prove which, if any, of her deficits were caused by any delay in diagnosis. Plaintiff asserts, on the other hand, that K.B.'s condition must be much worse, and will become even more so in the future due to the delay in diagnosing K.B.'s hydrocephalus caused by Defendant's negligence. The court has, however, been left bereft of any manner of calculating damages that is not purely speculative.

Despite the possibility of some damages, the record is devoid of any evidence of what those particular damages might be that were caused by the delayed diagnosis. Congenital hydrocephalus is a serious condition that can cause severe neurological and physical impairments and deficits no matter when it is diagnosed. A child will need medical treatment to resolve the hydrocephalus no matter when it is diagnosed. Yet, Plaintiff's position appears to be that all K.B.'s deficits (if any) are caused by the delayed diagnosis and treatment. The court is not persuaded by this position. No physician or expert witness made this statement. To be sure, Plaintiff's expert witness, Dr. Smith, testified that CNHC's actions damaged K.B. (Trial Transcript, p. 26). He did not, however, offer any opinion as to what specific injuries, deficits or damages arose from CNHC's actions. Without such testimony, the court would be forced to guess as to what injuries it would be awarding damages for – congenital hydrocephalus or failure to diagnose hydrocephalus.

Plaintiff's expert witness, Dr. Gonzales, prepared a Life Care Plan outlining the treatment and rehabilitation K.B. would need over her lifetime as a result of her hydrocephalus. He did not, however, distinguish between what treatment and rehabilitation K.B. would need

because of a delayed diagnosis versus what treatment and rehabilitation K.B. would need as a result of suffering congenital hydrocephalus. Indeed, Dr. Gonzales refused even to compare K.B.'s conditions with the needs of any individual with hydrocephalus caused by congenital aqueductal stenosis. While each patient must be evaluated individually for her needs, such a comparison is an indispensable yardstick for measurement of damages. In short, the court finds Dr. Gonzales' opinions regarding the amount of K.B.'s future needs unreasonably speculative especially in light of K.B.'s present condition. Furthermore, Dr. Gonzales reiterated that he was not testifying about causation. (Deposition of Dr. Gonzales, pp. 28-32, 65.)

The only witness that came close to providing this requisite testimony was Dr. Cole herself. Dr. Cole testified that in high-pressure hydrocephalus the cerebrospinal fluid (CSF) around the brain builds up and increases pressure in the inter-cranial vault. The ventricles in the brain expand with the increasing CSF. This can push the brain against the inside of the skull compressing the white matter. If not caught early and corrected, this process increasingly causes damage to the brain tissue. As the pressure increases it is more difficult to get blood and oxygen to the brain tissue. The longer this is allowed to persist and progress, the more damage it is likely to do. The longer it is allowed to persist and progress, the greater the change of significant permanent damage. The earlier it is caught, the less of a chance there is of significant permanent damage to the brain tissue. Pressure that is increasing to an extent that it is expanding the skull would be considered significant. Dr. Cole would be concerned about the motor and mental skills of a patient with inter-cranial pressure from hydrocephalus that was allowed to exist. (Deposition of Dr. Cole at 83:3-24; 84:1-25; 85:1-13.)

According to Dr. Cole, if the pressure is not detected and corrected for greater than 6

months, it is likely to result in permanent significant damage to the child's brain. (Deposition of Dr. Cole at 86:6-10.) If hydrocephalus is allowed to continue and progress untreated, it is going to cause increasingly severe and increasingly irreversible damage to the child's brain. (Deposition of Dr. Cole at 118:2-6.) Finally, Dr. Cole stated: "If she had hydrocephalus while we were treating her, then she would be better off if it was there and if we had caught it, if we had diagnosed it." (Trial Transcript, p. 343).

This testimony is simply too abstract. The fact remains that no evidentiary basis exists in the record to determine what increased or worse injuries K.B. actually suffers from as a result of a delayed diagnosis versus simply being born with congenital hydrocephalus. For example, Dr. Gonzales testified that K.B. will need increased numbers of pediatric visits for hydrocephalus. (Deposition of Dr. Gonzales, pp. 55-56.) The question remains, would she need increased pediatric visits even if there had been no delay in diagnosis? Dr. Gonzales testified that K.B. will probably need a new shunt every ten years. Dr. Gonzales does not know if this is more often than other shunt patients. (Deposition of Dr. Gonzales, pp. 70-71.)

In short, in order to award damages in this case, the court would be required to guess as to causation and guess as to the amount of damages to be awarded.

Even if causation had been proven, and damages were not speculative, any damages would be minimal. K.B. is actually a very lucky girl. As noted in the factual findings below, other than having a shunt, K.B. has very few obvious neurological, cognitive or motor impairments.

The court read Dr. Gonzales' Life Care Plan and his deposition, and views his opinions with skepticism. Dr. Gonzales seems to imbue his opinions with the catastrophic or "worst case

scenario" for K.B.'s future. While he prefaces his testimony with the statement that all of his opinions are given to a reasonable degree of medical certainty, his testimony is replete with suggestions that "this may happen to K.B.," therefore she may need some specific treatment. For example, Dr. Gonzales opines that one item of future care for which Defendant should compensate Plaintiff is K.B.'s future flu shots. This is simply overreaching.

Conversely, Dr. Hille testified at trial and seems cogent and mostly even-handed in his assessment.[6] He agreed with Dr. Gonzales that K.B. has a shunt which could cause future complications.[7] Also he agreed with Dr. Gonzales that K.B. now has enlarged ventricles, although no persuasive evidence exists that the enlargement was caused by CNHC. Where he parts company with Dr. Gonzales is with his opinion that, although K.B. is not "normal" she has no permanent injury.[8]

120. K.B.'s gait abnormality is not a result of hydrocephalus. (Trial Transcript at pp. 369-374; Joint Exhibit 4.)

121. Dr. Benner, K.B.'s neurosurgeon, is scheduled to examine K.B. only once per year. (Plaintiff's Exhibit 1, p. 23.)

122. On May 14, 2012, K.B. presented to Dr. Ashford at the Family Medical Clinic for a Well Child Check. The records state "in regard to motor skills, caregivers note that [K.B.] is able to alternate feet when ascending stairs, balance, build a tower of nine cubes, copy a circle,

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[6] Plaintiff makes much of the fact that Dr. Hille examined medical records to form his opinions and did not examine K.B. The court does not find that unusual in this particular situation. Plaintiff's other expert Dr. Smith did not examine K.B. Furthermore, the documentation by Dr. Gonzales of his examination comprise two and one-half pages of a 60 page report. (Plaintiff's Exhibit 1, pp. 22-24.) He basically "missed" K.B.'s lazy eye. (Deposition of Dr. Gonzales, p. 73) and only recognized it when shown K.B.'s picture at his deposition.

[7] This could occur in any shunted patient who experiences congenital aqueductal stenosis.

[8] Trial Transcript, pp. 385-386.

imitate a cross and begin to visually discriminate colors, day toilet trained, draw a person with 2 body parts, feed self, jump in place, kick a ball, open doors, pedal a tricycle and throw a ball overhand. In regard to social and language skills, she does comprehend 'cold', 'tired', 'hungry'; differentiate 'bigger' and 'smaller', converse in 2-3 sentences, demonstrate speech that is mostly intelligible, describe action in picture books, enjoy interactive play, participate in imaginative play that becomes more elaborate, know 1 color, know her name, age and gender, put on some clothing and shoes and use plurals." (Joint Exhibit 6, p. 1)

123. On January 17, 2013, K.B. presented to Nancy Merritt, DO at the Family Medical Clinic in Poteau, OK for a Well Child Check. The records state "in regard to motor skills, caregivers note that [K.B.] is able to brush teeth, build a tower of ten or more cubes, copy a square, triangle, copy a cross and a circle, cut and paste, draw a person with two or three parts, dress and undress with supervision, go up and down stairs without assistance, hold and use a pencil, hop on one foot, kick ball forward, ride a tricycle, throw a ball overhand and walk on tiptoes. In regard to social and language shills, she does ask why, when, how and inquires about the meaning of words, count 1 to 5, engage in conversational give-and-take, engage in 'pretend' play, enjoy jokes, follow three part commands, gives first/last name, has clearer sense of time, name three or four colors and sing a song." Physical exam of K.B.'s musculoskeletal system revealed normal gait and tone; normal overall. (Joint Exhibit 6, p. 159)

124. K.B.'s hydrocephalus was present *in utero*. (Trial Transcript, p. 355.)

125. K.B.'s hydrocephalus arose from aqueductal stenosis. (Trial Transcript, p. 360.)

126. K.B.'s aqueductal stenosis was mild. (Trial Transcript, p. 355.)

127. Plaintiff chose not to present K.B. at trial for observation by the court. The

pictures of K.B. (Plaintiff's Exhibits 11-22) (except for those taken immediately post surgery) appear to the court to show a normal, lovely female child.

128. K.B. has symmetrical reflexes and her cranial serves appear intact. (Trial Transcript, pp. 379-380.)

129. K.B. is able to speak. (Trial Transcript, p. 187.) Her speech is good and age appropriate. (Gonzales deposition, p. 4, ll. 21-22.)

130. K.B. is able to walk. (Trial Transcript, p. 188.)

131. K.B. is able to eat without vomiting. (Trial Transcript, p. 191.)

132. K.B. plays t-ball now. (Trial Transcript, p. 191.)

133. K.B. knows her ABCs. (Trial Transcript, p. 192.)

134. K.B. can count to 100 or more. (Trial Transcript, p. 192.)

135. K.B. knows all her colors. (Trial Transcript, p. 192.)

136. K.B. likes music and loves to dance. (Trial Transcript, p. 192.)

137. K.B. does tumbling once a week. (Trial Transcript, p. 192.)

138. K.B. does not use any medical equipment or devices. (Trial Transcript, p. 192.)

139. K.B. is growing and thriving wonderfully. (Trial Transcript, p. 193.)

140. K.B. is not taking any physical or occupational therapy. (Plaintiff's Exhibit 2, p. 6.)

141. K.B. is not taking any medication. (Plaintiff's Exhibit 2, p. 6.)

142. K.B. has no chronic conditions.

143. K.B. does not have a decreased life expectancy because of her hydrocephalus or any actions of CNHC. (Deposition of Dr. Gonzales, p. 38, ll. 24-25.)

144. K.B. currently has no cognitive disability.

145. K.B. may have a lazy eye, but Dr. Gonzales "didn't make anything of it."

146. K.B. has no hearing problems. (Deposition of Dr. Gonzales, p. 74, ll. 18-19.)

147. K.B. has no behavioral problems. She seems relatively normal. (Deposition of Dr. Gonzales, p. 76, ll. 6-7.)

148. K.B. will probably need a new shunt every ten years. Dr. Gonzales does not know if this is more often than other shunt patients.

149. K.B. may need a sedentary job, but she could be a lawyer or doctor. (Deposition of Dr. Gonzales, pp. 45-46.)

CONCLUSIONS OF LAW

1. Jurisdiction and Venue are proper in this Court under the facts of the case and the Federal Tort Claims Act – *28 U.S.C. § 1346(b)* and *28 U.S.C. § 2671* et seq. (Joint Stipulation, Docket No. 56, ¶1.) Venue in this Court is proper and this Court has jurisdiction of the parties and subject matter in this cause to hear and determine liability and damages issues arising out of the injuries sustained by Plaintiff and K.B., a minor proximately caused by negligent healthcare provided at the CNHC pursuant to 28 U.S.C. *§§* 1346(b), 2401, and 2671 et seq.

2. Under the *FTCA,* liability for medical malpractice is controlled by state law, the law of Oklahoma in this case. A plaintiff in a medical malpractice action must prove by a preponderance of the evidence that there was a duty owed by the Defendant to Plaintiff, there was a failure to perform that duty, and that injuries to the Plaintiff were proximately caused by the Defendant's failure(s). Flynn v. U.S., 902 F.2d 1524 (10th Cir. 1990); Smith v. Hines, 2011 OK 51.

3. The standard of care in Oklahoma requires those engaging in the practice of the healing arts to be measured by the national standard.

4. Damages must be reasonable and must not be speculative. Kobe, Inc. v. Dempsey Pump Co., 198 F.2d 416 (10th Cir. 1952.)

5. The Defendant in this case, through the health care providers at CNHC undertook the care of K.B. while she was a patient there and owed her a duty to provide care that met accepted standards. The healthcare providers failed to meet their duties in that they negligently failed to diagnose K.B. with hydrocephalus and send her for treatment when head circumference measurements showed her crossing multiple standard percentile lines.

6. Plaintiff has failed to prove that the negligence of CNHC caused damages to K.B. The deficiency in the evidence of causation would render speculative any damage award to Plaintiff.

7. Judgment should be entered against Plaintiff and in favor of the United States of America.

Dated this 31st day of March, 2014.

Ronald A. White

HONORABLE RONALD A. WHITE
UNITED STATES DISTRICT JUDGE
EASTERN DISTRICT OF OKLAHOMA